



ABSTRACTS

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References

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276. Acute intoxications by synthetic cannabinoids in the emergency system: An Italian cases series

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Objective: Synthetic cannabinoids (SC) represents approximately 30% of novel psychoactive substances (NPS) signalled in recent years. This study examines the clinical manifestations of SC intoxicated patients seen in Emergency Departments (EDs) in Italy.

Methods: All cases evaluated by EDs network and followed by Pavia Poison Control Centre during a 2-year period (2010 to 2012) are included. Symptomatic patients with referred/suspected abuse of SC were included. Demographic data, clinical course and laboratory results (biological sample/consumed substance) were collected and evaluated.

Results: In total 40 patients (14–55 years) with acute SC intoxications were analyzed. Cases were collected from all over Italy. SC were mainly consumed (90%) by smoking and product(s) were bought online in 45% of cases. Advanced laboratory analysis (in order to detect the specific SC) were performed in 80% of cases (n = 32). The clinical considerations and the correlation between clinical manifestations and specific SC were performed in the subgroup of patients (21/32) positive for a SC in serum. The main clinical manifestations were tachycardia > 100 bpm (62%, n = 13), mydriasis (57%, n = 12), anxiousness/agitation (43%, n = 9), gastrointestinal symptoms (24%, n = 5), hypertension (19%, n = 4) and hallucinations (14%, n = 3); seizures were observed in 5% of cases. No lethal cases were registered. The SCs identified in serum sample were JWH-122 (n = 10), JWH-018 (n = 4), JWH-250/JWH-122 (n = 3), JWH-073 (n = 1), MAM-2201 (1 case), JWH-018/JWH-122 (n = 1) and JWH-018/JWH-122/JWH-073 (n = 1).

Conclusion: SC acute intoxications are an important and confirmed problem in the Italian emergency setting.¹ Clinical diagnosis is difficult and routine screening for tetrahydrocannabinol (THC) will be negative.² The emergency physician plays a key role in detection of acute SC intoxication in order to proceed with second level

analysis necessary to confirm the abuse.^{3,4} According to emerging medical reports, close monitoring for functional and toxic damage is necessary.

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277. Bad trip due to 25I-NBOMe: A case report from the EU Project SPICE II Plus

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Objective: A new group of novel psychoactive substance, the N-(2-methoxybenzyl) derivatives of substituted phenethylamines of the "2C series" (Alexander Shulgin, PiHKAL), also called "NBOMes", has recently emerged on the drug market. Among this group, 25I-NBOMe, the N-(2-methoxybenzyl) derivative of 2C-I, has previously been implicated in clinical intoxications and fatalities. 25I-NBOMe is an extremely potent drug with stimulant and hallucinogenic properties. We present a case with analytically confirmed 25I-NBOMe intoxication from the prospective study within the EU project SPICE II Plus.

Case report: A 42-year-old man took one sip of a pediatric analgesic syrup stored in the family's refrigerator because he had a severe headache. Thirty minutes later he complained of restlessness. On arrival in the emergency department vital signs were unremarkable (blood pressure 120/80 mmHg, heart rate 96/min). Examination revealed excessively dilated pupils, strong sweating, disorientation to time and to person, and agitation. At that time the patient's son reported that he had refilled the pediatric analgesic liquid with a self-made ethanolic solution of 25I-NBOMe (supposed 25I-NBOMe concentration 320 µg/ml). When the patient's condition severely deteriorated within a short time, he was transferred to the intensive care unit. There he presented with severe agitation, auditory and somatic hallucinations, and complex visual hallucinations (particularly hallucinating serious road crashes). The patient was shouting and crying. 25I-NBOMe (2.56 ng/mL) and 2C-I (289 ng/mL) were found (LC-ESI-MS/MS) in blood serum samples obtained 1 hour after ingestion. The blood ethanol concentration was 0.04 g/L. The presumed analgesic liquid contained an unexpected

Acute intoxications by synthetic cannabinoids in the emergency system: the Italian cases series.

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Background: Synthetic cannabinoids (SC) are synthetic drugs that bind the same receptors as phytocannabinoids (CB1 and CB2) but with higher affinity. This partially explain the reported differences in clinical picture in case of poisoning. SC firstly appeared on the European market in 2005 and are mostly purchased on the internet or in smart shops as herbal blends (Fig. 1). In 2012, SC were approximately 30% of new psychoactive substances signaled by European Monitoring Center for Drugs and Drug Addiction (Fig. 2). In Italy, the first cases were reported in 2010, by Pavia Poison Control Centre (PPCC).

Objective: to describe clinical manifestations and toxicological findings of intoxicated patients by SC at Emergency Departments (EDs) admission

Methods:

Study Period: January 2010 - December 2012

Setting: all cases evaluated by Italian EDs and followed by PPCC

Inclusion criteria: history of assumption of substances attributable to SC

Study design: shown on the right

Study design

Admission at ED of patient with medical case attributable to acute intoxication by SC



Clinical-toxicological management of case

Contact with Pavia Poison Control Centre

Evaluation of inclusion criteria

Exclusion of unqualify cases

For each case, collection of:
- Serum sample
- Urine sample
- Consumed substance sample

Acquisition of collected samples, by courier

Laboratory methods used:
- Blood → HPLC-MS
- Urine → Elisa

Sample analysis in two Pavia laboratories:
- Laboratory of Clinical and Experimental Toxicology, IRCCS Maugeri Foundation
- Laboratory of Analytical Toxicology, Clinical Chemistry Service, IRCCS Policlinico San Matteo Foundation

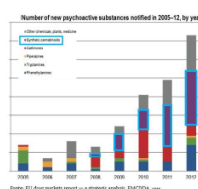
Figure 1:

Example of products purchasable on internet



Figure 2:

Signaled substances (2005-2012) by EMCDDA



Results: 40 cases of acute intoxication by SC were included (14-55 years), distributed all over the country (Fig. 3). In 45% of cases the drug was bought on internet (Fig. 4), in 36/40 cases the CS was smoked (Fig. 5). In 32/40 cases (80%) toxicological analysis was effectuated on biological samples and, in 11 cases, also on consumed substance. All evaluated cases were positive for one or more SC. In 25 cases analysis were carried out both in blood and in urine sample. Among these, samples collected within 10 hours from assumption were positives both in urine and blood sample. After 10 hours, only urinary positivity was observed (Fig. 6). Clinical manifestations evaluated for cases with positive blood analysis results evidenced tachycardia, mydriasis, agitation and drowsiness as the most frequent findings at the ED presentation (Fig. 7).

Figure 4: Findings sources of SC

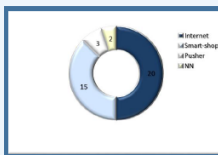


Figure 5: Methods of intake

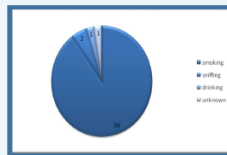


Figure 3:

Geographic distribution and denomination of product purchased on internet containing SC



Figure 6:

Results of toxicological analysis effectuated with two methods, related with elapsed time of consumption

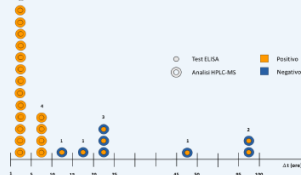
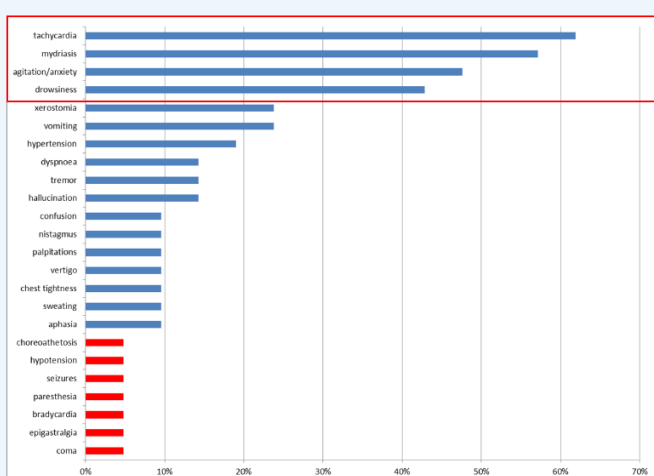


Figure 7: Presentation symptoms at ED of positive cases for SC in the blood at the moment of ED admission.



Conclusions: SC acute intoxications are an important and confirmed problem in the Italian emergency setting. Clinical diagnosis can be challenging and they are not detectable by routine toxicological screening performed in ED. Collaboration between ED and PPCC is crucial in raising clinical suspicion of SC intoxication, in order to proceed with second level laboratory analysis. Latest medical reports suggest close monitoring for functional and toxic organ damages. Correct diagnosis allows suitable cases follow up also in relation to the epidemiological implications and monitor of possible long term effects, not even known for these substances.